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3M INNOVATIVE PROPERTIES COMPANY				
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			ART UNIT	PAPER NUMBER
			2178	

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,486

Applicant(s)

ZIMMERMAN ET AL.

Examiner

Wilson Tsui

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See attached.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Information Disclosure Statements: 20040726, 20050202, 20060106, and 20060501

DETAILED ACTION

1. This action is in response to the application filed on: 08/20/2003, IDS filed on: 07/26/2004, IDS filed on: 02/02/2005, IDS filed on: 1/06/2006, and IDS filed on: 5/01/2006
2. Claims 1-36 are pending. Claims 1, 17, 31, and 33 are independent claims.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 17-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With regards to claims 17-30, the claimed "packaging data management system" appears to be a "computer program per se" without hardware. Since the computer program is not embodied in a computer readable medium, it is thus, not statutory. See MPEP 2106 below:

Data structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held non statutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and thus statutory.

With regards to claim 31, the claimed "online packaging data management system" does not recite a practical application by producing a physical transformation or

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producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must transform an article or physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce the same results given the same initial starting conditions. To be tangible the claimed invention must produce a practical application or real world result. In this case the claims fail to perform a physical transformation because the claims are directed to operating on data. The claim is useful and concrete, but they fail to produce a tangible result because the packaging record generated is not displayed, outputted, or stored.

With regards to claims 31 and 32, the claimed "online packaging data management system" appears to be a "computer program per se", without hardware. Since the computer program is not embodied in a computer readable medium, it is thus, not statutory. See MPEP 2106.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, and 11-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over VandenAvond et al (US Application: US 2003/0004946 A1,

published: Jan. 2, 2003, filed: Jun. 28, 2001) in further view of Altamura et al ("Transforming Paper Documents into XML format with WISDOM++", IJDAR, published: November 7, 2000, pages 3, 6, 7, and 9).

With regards to claim 1, VandenAvond et al teaches *a packaging template* (Fig 2, paragraphs 0036-0038: *whereas, graphics/labeling (packaging) templates are used; presenting an interface for populating the data fields of the packaging template with the elements in accordance with the information to form a packaging record* (Fig 9, paragraphs 0045: *whereas a record manager includes an interface for populating data fields of the packaging template, with the elements in accordance with the information of text, graphics, or other data); and communicating the packaging record to an output location for printing packaging material* (paragraph 0048: *whereas, packaging records are published to an output location for printing packaging material*).

However, VandenAvond et al does not expressly teach ... *processing a graphic file to identify elements of a packaging layout/design; generating information that associates the elements with types of data fields of a template*.

Altamura et al teaches *processing a graphic file to identify elements of a document/image layout* (Fig 3, page 6: *whereas, a document/image layout is analyzed, and the elements of the layout are identified); generating information that associates the elements with types of data fields of a template* (Page 9, Fig 5, P9-B3: *whereas, XML metadata information is generated to associate the elements of the layout with the data fields of a XML DTD/schema template*).

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It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified VandenAvond et al's information, such that the information used comes from information extracted from a graphic file, as taught by Altamura et al. The combination of VandenAvond et al and Altamura et al would have allowed VandenAvond et al to have implemented a "knowledge based extraction of the layout structure" (Altamura, page 3, P3-B2)

With regards to claim 2, which depends on claim 1, the combination of VandenAvond et al and Altamura et al teach *processing a graphical file* within a packaging system, as similarly explained in the rejection for claim 1, and is rejected under similar rationale. Altamura et al further teaches *the processing of a graphical file, includes parsing the graphic file to identify graphical elements and textual elements*: whereas, the graphical page layout attributes are identified (Page 7, P7-B3), and textual elements are also identified (as shown extracted and saved in XML format P9-B3).

With regards to claim 3, which depends on claim 1, the combination of VandenAvond et al and Altamura et al teaches *storing the elements within a packaging data management system*, as similarly explained in the rejection for claim 1, and is rejected under similar rationale; VandenAvond et al further teaches *selecting one or more of the elements based input received from the user* (Fig 9, paragraph 0045: whereas, a user selects one or more of the elements based on input received from the user); *and generating the packaging record to identify the selected elements* (paragraph 0045-0048: whereas a record is published/generated, such that the record identifies the selected elements to use for manufacturing).

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With regards to claim 11, which depends on claim 1, the combination of VandenAvond et al, and Altamura et al teaches *storing the elements within a packaging data management system*, as similarly explained in the rejection for claim 3, and is rejected under the same rationale. Additionally, VandenAvond et al teaches *generating the information*, such that the information is stored in an xml file, as similarly explained in the rejection for claim 1. As explained in the rejection for claim 1, the information/metadata generated/stored is then used to create a packaging record, and thus, since the information generated/stored is used, then, the database which stores the information must be searchable as well to search/gather/use the stored information.

With regards to claim 12, which depends on claim 1, VandenAvond et al teaches *further comprising printing the packaging material at the output location in accordance with the packaging record*, as similarly explained in the rejection for claim 1, and is rejected under the same rationale.

With regards to claim 13, which depends on claim 12, VandenAvond et al teaches *wherein printing the packaging material comprises printing a label* (paragraph 0048)

With regards to claim 14, which depends on claim 1, VandenAvond et al teaches *wherein communicating the packaging record comprises communicating the packaging record to a manufacturing facility via a network*

With regards to claim 15, which depends on claim 1, Altamura et al teaches *wherein generating information comprises generating the information as metadata in accordance with a data description language*, as similarly explained in the rejection for claim 1

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(whereas, Altamura generates XML metadata information), and is rejected under the same rationale.

With regards to claim 16, which depends on claim 1, Altamura et al teaches wherein *generating the information as metadata comprises generating the information as metadata in accordance with the extensible Markup Language (XML)*, as similarly explained in the rejection for claim 15, and is rejected under the same rationale.

With regards to claim 17, VandenAvond et al teaches:

Using labeling/packaging templates, as similarly explained in the rejection for claim 1.

Additionally, VandenAvond et al further teaches the packaging templates comprise a set of *packaging templates having data fields selected from a set of data field types* (paragraph 0038: whereas, a set of packaging/labeling-templates are created through a template design tool. Additionally, each of the templates have data fields with selected from a set of embedded codes/data-field-type codes).

Furthermore, VandenAvond et al and Altamura et al teach:

An artwork importation module that processes a graphic file to identify elements of a packaging layout, wherein the artwork importer generates information that associates each of the elements with a respective one of the data field types of the packaging templates, as similarly explained in the rejection for claim 1, and is rejected under similar rationale.

A record manager that presents an interface by which a user selects one of the

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packaging templates and populates the data fields of the selected packaging template with the elements based on the information to form a packaging record, as similarly explained in the rejection for claim 1, and is rejected under similar rationale.

An output manager that communicates the packaging record to an output location to control printing of a packaging material, as similarly explained in the rejection for claim 1, and is rejected under similar rationale.

With regards to claim 18, which depends on claim 17, for a packaging data management system performing a method similar to the method performed in claim 2, is rejected under similar rationale.

With regards to claim 19, which depends on claim 17, for a packaging data management system performing a method similar to the method performed in claim 4, is rejected under similar rationale.

With regards to claim 20, which depends on claim 19, for a packaging data management system performing a method similar to the method performed in claim 5, is rejected under similar rationale.

With regards to claim 21, which depends on claim 20, for a packaging data management system performing a method similar to the method performed in claim 6, is rejected under similar rationale.

With regards to claim 22, which depends on claim 20, for a packaging data management system performing a method similar to the method performed in claim 7, is

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rejected under similar rationale.

With regards to claim 23, which depends on claim 19, for a packaging data management system performing a method similar to the method performed in claim 8, is rejected under similar rationale.

With regards to claim 24, which depends on claim 19, for a packaging data management system performing a method similar to the method performed in claim 9, is rejected under similar rationale.

With regards to claim 25, which depends on claim 24, for a packaging data management system performing a method similar to the method performed in claim 10, is rejected under similar rationale.

With regards to claim 26, which depends on claim 17, VandenAvond et al teaches:

The elements, and the information, as similarly explained in the rejection for claim 1.

VandenAvond et al further teaches *a server is used to store the elements* (paragraph 0039-0042: *whereas, textual, and/or graphic elements are uploaded into a label management system/server*), and also further teaches *a database is used to store the information* (paragraph 0039: *whereas, a label management system/database stores template information.*)

Furthermore, VandenAvond et al, and Altamura et al teaches:

Wherein the record manager accesses the database based input received via the interface to locate and select one or more of the elements of the packaging record, as similarly explained in the rejection for claim 11, and is rejected under similar rationale.

With regards to claim 27, which depends on claim 17, for a packaging data

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management system performing a method similar to the method of claim 1, and is rejected under similar rationale.

With regards to claim 28, which depends on claim 17, for a packaging data management system performing a method similar to the method of claim 15, is rejected under similar rationale.

With regards to claim 29, which depends on claim 18, for a packaging data management system performing a method similar to the method of claim 16, is rejected under similar rationale.

With regards to claim 30, which depends on claim 17, VandenAvond et al teaches:

... a rules engine to validate the packaging records in accordance with a set of rules

(paragraph 0047: whereas, the packaging records are validated, by checking to see if the record is marked as draft or approved)

With regards to claim 31, VandenAvond et al teaches:

The combination of VandenAvond et al, and Altamura et al teach:

Means for processing a packaging layout to identify elements, as similarly explained in the rejection for claim 1, and is rejected under similar rationale.

Means for mapping the elements to the data field types of the packaging templates, as similarly explained in the rejection for claim 1, and is rejected under similar rationale

Means for generating a packaging record from the elements, the packaging templates, and mapping, as similarly explained in the rejection for claim 1, and is rejected under similar rationale.

Additionally, as explained in the rejection for claim 1, VandenAvond et al teaches

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packaging templates. VandenAvond et al further teaches the *centrally storing packaging templates that define a set of data field types* (paragraph 0039: whereas, the packaging templates are stored in a central label management system, and as explained in paragraph 0038: a set of packaging/labeling-templates are created through a template design tool, such that each of the templates have data fields comprising a set of embedded codes/data-field-type codes).

With regards to claim 32, which depends on claim 31, for an online packaging data management system performing a method similar to the method of claim 1, is rejected under similar rationale.

With regards to claim 33, for a computer readable medium performing a method similar to the method of claim 1, is rejected under similar rationale.

With regards to claim 34, which depends on claim 33, for a computer readable medium performing a method similar to the method of claim 4, is rejected under similar rationale.

With regards to claim 35, which depends on claim 34, for a computer readable medium performing a method similar to the method of claim 9, is rejected under similar rationale.

With regards to claim 36, which depends on claim 33, for a computer readable medium performing a method similar to the method of claim 15, is rejected under similar rationale.

4. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over VandenAvond et al (US Application: US 2003/0004946 A1, published: Jan. 2, 2003, filed: Jun. 28, 2001) and Altamura et al ("Transforming Paper Documents into XML format with WISDOM++", IJDAR, published: November 7, 2000, pages 3, 6, 7, and 9),

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in further view of Guo et al (US Application: US 2006/0104511 A1, published: May 18, 2006, filed: Aug. 20, 2003, EEFD: Aug. 20, 2002).

With regards to claim 4, which depends on claim 1, VandenAvond et al teaches *presenting a interface to receive input that maps each of the elements to a respective one of the types of data fields of the packaging template; and generating the information based on the input, wherein the information describes the mapping between the elements and the types of data fields of the packaging template* (Fig 9, paragraph 0045: whereas, the record manager allows for mapping elements to the data fields in a packaging template). However, VandenAvond et al does not expressly teach the interface is a *reconciliation* interface.

Guo et al teaches a *reconciliation* interface, which receives input and maps each of the elements to a respective one of the types of data fields; and generating the information based on the input, wherein the information describes the mapping between the elements and the types of data fields (paragraphs 0023-0024: whereas, a label editor provides for a reconciliation interface).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified VandenAvond et al's interface to have further include the *reconciliation* ability when mapping elements as taught by Guo et al. The combination of VandenAvond et al, Altamura et al, and Guo et al would have allowed VandenAvond et al to have "automatically associated mark-up language tags with the labeled zones" (Guo et al, Abstract).

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With regards to claim 5, which depends on claim 4, the combination of VandenAvond et al, Altamura et al, Guo et al teaches wherein *presenting a reconciliation interface*, as explained in the rejection for claim 4, and is rejected under the same rationale.

Furthermore, VandenAvond et al teaches an interface *comprises presenting the reconciliation interface to include a display area that illustrates the packaging layout* (Fig 9: whereas, as shown, the packaging layout is shown in the reconciliation interface).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified VandenAvond et al, Altamura et al, and Guo et al's interface, to have further included the ability to display the packaging layout, as also taught by VandenAvond et al. The combination would have allowed VandenAvond et al to have "graphically illustrated the label as well as the corresponding fields associated with the label" (VandenAvond et al, paragraph 0067)

With regards to claim 6, which depends on claim 5, the combination of VandenAvond et al, Altamura et al, and Guo et al teach a *display area* within a reconciliation interface, as similarly explained in the rejection for claim 4. Additionally, Guo et al further teaches the reconciliation interface includes a *display area to include graphical indicators for each of the identified elements of a layout* (Fig 3, paragraph 0042)

With regards to claim 7, which depends on claim 5, the combination of VandenAvond et al, Altamura et al, and Guo et al teach *assigning each of the elements* (through the method of mapping, as similarly explained in the rejection for claim 4). Additionally, Guo et al further teaches the mapping/assignment of elements within a reconciliation

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interface further includes *assigning each of the elements with a unique identifier* (column 6, Table 4: whereas, each of the elements are assigned a unique identifier); *and generating the display area to graphically label each of the elements with the corresponding identifier* (Fig 3: whereas, each of elements are graphically labeled corresponding to an identifier).

With regards to claim 8, which depends on claim 4, the combination of VandenAvond et al, Altamura et al, Guo et al teach a reconciliation interface, as similarly explained in the rejection for claim 4. Additionally, Guo et al further teaches the reconciliation interface includes an element description area that lists the elements identified within the graphic file (Fig 3: whereas, the elements are listed in the left pane).

With regards to claim 9, which depends on claim 4, VandenAvond et al teaches *presenting an interface* to receive input that maps each of the elements to a respective one of the types of data fields of the packaging template, as explained in the rejection for claim 4. Furthermore, VandenAvond et al teaches the interface performs the mapping by including a *data type assignment area having a set of inputs for assigning the graphical elements to respective types of the data fields of the packaging template* (Fig 9: whereas, as shown, several drop down boxes are used as a set of inputs for assigning graphical elements respective to types of data fields of the packaging template). However, VandenAvond et al does not expressly teach a reconciliation interface.

Yet, as explained in the rejection for claim 4, Guo et al teaches *a reconciliation interface* which receives input and maps each of the elements to a respective one of the types of

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data fields; and generating the information based on the input, wherein the information describes the mapping between the elements and the types of data fields (paragraphs 0023-0024: whereas, a label editor provides for a reconciliation interface).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified VandenAvond et al's data type assignment interface to have further include the *reconciliation* ability when mapping elements as taught by Guo et al. The combination of VandenAvond et al, Altamura et al, and Guo et al would have allowed VandenAvond et al to have "automatically associated mark-up language tags with the labeled zones" (Guo et al, Abstract).

With regards to claim 10, which depends on claim 9, the combination of VandenAvond et al, Altamura et al, and Guo et al similarly explain *generating the inputs of the data type assignment area to include drop-down menus that list the types of data fields of the packaging template*, as similarly explained in the rejection for claim 9, and is rejected under the same rationale.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Yamashita et al (US Patent: 5,555,362): This reference teaches image segmentation, element recognition and extraction, and template/model based layout.

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- Breuel et al (US Application: US 2004/0205568 A1): This reference teaches image segmentation, labeling parts of an image, and assigning elements to each image property.
- Benstein (US Application: US 2003/0038972 A1): This reference teaches preparing packaging/labeling data, centralized packaging data management system, markup implementation, packaging template to element mapping, an element/template reconciliation interface.
- Dick et al (US Application: US 2002/0129980 A1): This reference teaches the use of templates for output and manufacturing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wilson Tsui whose telephone number is (571)272-7596. The examiner can normally be reached on Monday - Friday.

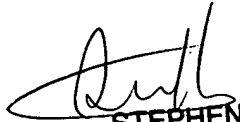
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

W. T. 12/7/06

Wilson Tsui
Patent Examiner
Art Unit: 2178
December 7, 2006


STEPHEN HONG
SUPERVISORY PATENT EXAMINER